

Contents

Contents of Number 1/2

- Editorial: Zur Gründung der Zeitschrift für Naturforschung
P. KARLSON 1

Original Communications

- Occurrence of 3,4-Diacetoxybutynylbithiophene in *Tagetes patula* and Its Enzymatic Conversion
R. PENSL and R. SÜTFELD 3

- Isomeric Di-C-glycosylflavones in Fig (*Ficus carica* L.)
F. SIEWEK, K. HERRMANN, L. GROTJAHN, and V. WRAY 8

- Investigations on Callus Cultures of *Melissa officinalis* L., II. Volatile Diterpene Hydrocarbons in Not Differentiated Static Cultures (In German)
I. KOCH-HEITZMANN, W. SCHULTZE, and F.-C. CZYGAN 13

- Effect of 5-Azacytidine on the Formation of Secondary Metabolites in *Catharanthus roseus* Cell Suspension Cultures
H.-A. ARFMANN, W. KOHL, and V. WRAY 21

- Occurrence of "Stress"-Proteins in Yeast after Heat-Shock, Acrylonitrile Treatment and during the Stationary Growth Phase
U. PFEFFER and B. SCHULZ-HARDER 26

- Degradation of Glutathione in Plant Cells: Evidence against the Participation of a γ -Glutamyl-transpeptidase
R. STEINKAMP and H. RENNENBERG 29

- Purification and Properties of Adenosine Kinase from Rat Liver: Separation from Deoxyadenosine Kinase Activity
A. K. DRABIKOWSKA, L. HALEC, and D. SHUGAR 34

- Amino Acid Composition of Cockroach Hypertrehalosaemic Hormones
G. GÄDE 42

- The Scent Substances of Pierid Butterflies (*Hebomoia glaucippe* Linnaeus) and the Volatile Components of Their Food Plants (*Crataeva religiosa* Forst.)
N. HAYASHI, A. NISHI, T. MURAKAMI, K. MAESHIMA, H. KOMAE, and T. SAKAO 47

- Chemical and Physical Characterization of Four Interfacial-Active Rhamnolipids from *Pseudomonas Spec.* DSM 2874 Grown on *n*-Alkanes
C. SYLDATK, S. LANG, F. WAGNER, V. WRAY, and L. WITTE 51

- Production of Four Interfacial Active Rhamnolipids from *n*-Alkanes or Glycerol by Resting Cells of *Pseudomonas species* DSM 2874
C. SYLDATK, S. LANG, U. MATULOVIC, and F. WAGNER 61

- Phosphatidylinositol-Specific Phospholipase C from Bovine Blood Platelets. Inhibition by Calmodulin-Inhibitors – Activation by ATP and ADP (In German)
H. BENEDIKTER, G. KNOPKI, and P. RENZ 68

- Phospholipid Transfer from ER to the Peribacteroid Membrane in Soybean Nodules
R. B. MELLOR, T. M. I. E. CHRISTENSEN, S. BASSARAB, and D. WERNER 73

- Higher Cardol Homologues (5-Alkenylresorcinols) from Rye Affect the Red Cell Membrane-Water Transport
A. KOZUBEK 80

- Effects of Carbohydrates on the Ion Conductance of the Hemocyanin Channel
G. MENESTRINA and F. PASQUALI 85

- Kinetics of Calcium-Induced Fusion of Cell-Size Liposomes with Monolayers in Solutions of Different Osmolarity
N. STOICHEVA, I. TSONEVA, D. S. DIMITROV, and I. PANAIOTOV 92

Control of the Activity of Brain Synaptosome-Associated Acetylcholinesterase by Acidic Phospholipids S. TSAKIRIS	97	J. TENGÖ, E. ENGELS, W. ENGELS, R. KITTMANN, and D. SCHNEIDER	145
<i>In Vitro</i> Cellular Muscle Calcium Metabolism. Characterization of Effects of 1,25-Dihydroxy-Vitamin D ₃ and 25-Hydroxy-Vitamin D ₃ A. R. DE BOLAND and R. BOLAND	102	Isolation of Populations of Antipeptide Antibodies Directed against Different Epitopes of the Same Fragment A. CHERSI, C. GREGER, and R. A. HOUGHTEN	148
Absorption Spectra of Phytochrome Intermediates P. EILFELD and W. RÜDIGER	109		
Variability of the Light-Harvesting-System during the Cell Cycle of <i>Chlorella fusca</i> (In German) P. BRANDT, H. GLEIBS, A. KÖHNE, and W. WIESSNER	115	Contents of Number 3/4	
Effect of Light Intensity on Photosynthetic ¹⁴ CO ₂ Fixation of <i>Anabaena flos-aquae</i> G. DÖHLER and A. MÄRTE	122	Original Communications	
Photodestruction of <i>Propionibacterium acnes</i> Porphyrins T. B. MELØ, G. REISAETER, A. JOHNSSON, and M. JOHNSSON	125	Molecular Pharmacological Investigation of Medicinal Plant Substances. II. Inhibition of Acetylcholinesterase by Monoterpene Derivatives <i>in vitro</i> (In German) L. GRACZA	151
Inhibition of Photosystem II by UV-B-Radiation M. TEVINI and K. PFISTER	129	L-Tyrosine as a Precursor of Flavonoids in Buckwheat Cotyledons U. MARGNA, L. LAANEST, E. MARGNA, and T. VAINJÄRV	154
Notes		Two Different Chalcone Synthase Activities from Spinach L. BEERHUES and R. WIERMANN	160
Enzymatic Nitrate Assay by a Kinetic Method Employing <i>Escherichia coli</i> Nitrate Reductase J. SCHILD and J.-H. KLEMME	134	Enhanced Production of Cell-Bound and Extracellular Streptolysin S by Hemolytic Streptococci Pretreated with Proteases A. TAKETO and Y. TAKETO	166
Fructose-Stimulated Ferricyanide Reduction by Intact Blue-Green Algae S. SCHERER and P. BÖGER	138	Regulation of β -Galactosidase Synthesis in Wild Type and in a Succinate-Resistant Mutant of <i>Rhizobium meliloti</i> A. P. SINGH and J. B. SINGH	170
Male Produced Volatiles from Coreid Bug <i>Leptoglossus australis</i> (Heteroptera) A. J. E. GOUGH, D. E. GAMES, B. W. STADDON, and T. O. OLAGBEMIRO	142	Do Cyanobacteria Contain a Membrane Bound Cysteine Oxidase? E. L. BARSKY, F. D. KAMILOVA, and V. D. SAMUILOV	176
Identification of Cyclic Enolethers from Insects: Alkyldihydropyranes from Bees and Alkyldihydro-4H-pyran-4-ones from a Male Moth W. FRANCKE, W. MACKENROTH, W. SCHRÖDER,		Soybean Root Response to Symbiotic Infection Glyceollin I Accumulation in an Ineffective Type of Soybean Nodules with an Early Loss of the Peribacteroid Membrane D. WERNER, R. B. MELLOR, M. G. HAHN, and H. GRISEBACH	179

Acetate Concentration and Chloroplast Pyruvate Dehydrogenase Complex in <i>Spinacia oleracea</i> Leaf Cells B. LIEDVOGEL	182	Small-Angle X-Ray and Light Scattering Studies on the Influence of Mg^{2+} Ions on the Structure of the RNA from Bacteriophage MS2 G. RIBITSCH, R. DE CLERCQ, W. FOLKHARD, P. ZIPPER, J. SCHURZ, and J. CLAUWAERT	234
Isolation of Vacuoles from the Upper Epidermis of <i>Petunia Hybrida</i> Petals. I. A Comparison of Isolation Procedures J. M. F. G. AERTS and A. W. SCHRAM	189	Nucleotide Sequence of Bovine 1.723 Satellite DNA G. PLUCIENNICZAK, J. SKOWRONSKI, A. PLUCIENNICZAK, and J. JAWORSKI	242
Isolation of Vacuoles from the Upper Epidermis of <i>Petunia Hybrida</i> Petals. II. Vacuolar Localization of Some Hydrolases J. M. F. G. AERTS and A. W. SCHRAM	196	Rate and Rate-Determining Step of Hydrogen-Atom-Induced Strand Breakage in Poly(U) in Aqueous Solution under Anoxic Conditions E. BOTHE and H. SELBACH	247
Dicyano-bis(pyridin-2,6-dicarbothioato)-ferrate (II)/ferrate (III), a Further Fe Containing Redox System from the Culture Medium of <i>Pseudomonas</i> sp. (In German) U. HILDEBRAND, K. TARAZ, H. BUDZIKIEWICZ, H. KORTH, and G. PULVERER	201	Properties of Lectins from Snails of the Genus <i>Helix</i> Probed by Monoclonal Antibodies H. A. W. SCHNEIDER	254
Differential Inhibition by Mevinolin of Prenyllipid Accumulation in Radish Seedlings S. SCHINDLER, T. J. BACH, and H. K. LICHTENTHALER	208	Sex Pheromone Components in the New Zealand Brownheaded Leafroller <i>Ctenopseustis obliquana</i> (Lepidoptera: Tortricidae) H. YOUNG, R. A. GALBREATH, M. H. BENN, V. A. HOLT, and D. L. STRUBLE	262
On the Chemical Reactivity of the Phytochrome Chromophore in the P_r and P_{fr} Form F. THÜMLER, P. EILFELD, W. RÜDIGER, D.-K. MOON, and P.-S. SONG	215	Sex Pheromone Components in the New Zealand Greenheaded Leafroller <i>Planotortrix excessana</i> (Lepidoptera: Tortricidae) R. A. GALBREATH, M. H. BENN, H. YOUNG, and V. A. HOLT	266
Physicochemical Characterization of Tetraether Lipids from <i>Thermoplasma acidophilum</i> . II. Film Balance Studies on the Monomolecular Organization of the Main Glycophospholipid in Monofilms C. STROBL, L. SIX, K. HECKMANN, B. HENKEL, and K. RING	219	Sex Attractant Blends for Field Trapping of <i>Agrotis segetum</i> Males (Lepidoptera: Noctuidae) in Israel and Germany E. DUNKELBLUM, S. GOTHILF, H. J. BESTMANN, W. KNAUF, and O. VOSTROWSKY	272
Chemiluminescence in the Coupled Oxidation of Lecithin and Ascorbate K. LICHSZTELD, Z. MACHOY, and A. STĘPIŃSKA	223	Calcium/Sodium Binding Competition in the Gating of Light-Activated Membrane Conductance Studied by Voltage Clamp Technique in <i>Limulus</i> Ventral Nerve Photoreceptor H. STIEVE, M. PFLAUM, J. KLOMFASS, and H. GAUBE	278
Temperature Dependence of Population Growth in a Green Microalga: Thermodynamic Characteristics of Growth Intensity and the Influence of Cell Concentration C. J. SOEDER, E. HEGEWALD, E. FIOLITAKIS, and J. U. GROBBELAAR	227	Notes Site of H Atom Attack on Uracil and Its Derivatives in Aqueous Solution S. DAS, D. J. DEEBLE, and C. v. SONNTAG	292

The Effect of Thiol Compounds on the Glutamate Affinity of the Chloroplastic Glutamine Synthetase from Mustard Leaves R. MANDERSCHIED and A. WILD	295	The Influence of Low-Intensity Millimeter-Wave Radiation on the Growth of Cress Roots F. KREMER, A. POGLITSCH, L. SANTO, D. SPERBER, and L. GENZEL	336
<i>Contents of Number 5/6</i>			
<i>Original Communications</i>			
Adsorbent Filter – A Tool for the Selection of Plant Suspension Culture Cells Producing Secondary Substances B. KNOOP and R. BEIDERBECK	297	Amine-carbamoyl-dihydro- ¹⁰ B-borane, Preparation, and Biological Properties (In German) F. DALLACKER, T. BÖHMEL, W. MÜLLNERS, and H. MÜCKTER	344
Localization of Chromenes and Benzofurans in the Genus <i>Encelia</i> (Asteraceae) P. PROKSCH, M. PROKSCH, W. WECK, and E. RODRIGUEZ	301	Carrierfree Synthesis Products from Irradiated Valine by Means of Hot ¹⁴ C-Atoms of Giant Resonance Reaction (In German) G. GUNDLACH, E. L. SATTLER, and U. WAGENBACH	351
The Widespread Occurrence in Nature of Anthocyanins as Zwitterions J. B. HARBORNE and M. BOARDLEY	305	Acylchain Specificity and Kinetic Properties of Phospholipase A ₁ and A ₂ of Bone Marrow-Derived Macrophages I. FLESCH, B. SCHMIDT, and E. FERBER	356
Studies of the Sterolsynthesis in the Fungus <i>Aureobasidium (Dematium) pullulans</i> (In German) P. FLESCH and M. SCHAEFER	309	A Small-Angle X-Ray Scattering Study on Pre-Irradiated Malate Synthase. The Influence of Formate, Superoxide Dismutase, and Catalase on the X-Ray Induced Aggregation of the Enzyme P. ZIPPER, R. WILFING, M. KRIECHBAUM, and H. DURCHSCHLAG	364
Isolation of the Phytoalexin Medicarpin from Leaflets of <i>Arachis hypogaea</i> and Related Species of the Tribe Aeschynomeneae R. N. STRANGE, J. L. INGHAM, D. L. COLE, M. E. CAVILL, C. EDWARDS, C. J. COOKSEY, and P. J. GARRATT	313	Physicochemical Properties of Ferredoxin from <i>Chlamydomonas reinhardtii</i> F. GALVÁN, A. J. MÁRQUEZ, and E. FERNÁNDEZ	373
Isoceroptene, a Novel Polyphenol from <i>Pityrogramma triangularis</i> K. R. MARKHAM, CH. VILAIN, E. WOLLENWEBER, V. H. DIETZ, and G. SCHILLING	317	Fluorescence-ODMR of Light Harvesting Pigments of Photosynthetic Bacteria A. ANGERHOFER, J. U. v. SCHÜTZ, and H. C. WOLF	379
Flavonoids and Terpenoids from the Leaf Resin of <i>Pluchea odorata</i> E. WOLLENWEBER, K. MANN, F. J. ARRIAGA, and G. YATSKIEVYCH	321	Action of Methylthiopyrimidine Experimental Herbicides as Diuron-Like Inhibitors of Photosynthesis J.-M. DUCRUET and R. SCALLA	388
Biflavonoids, Quinones and Xanthonenes as Rare Chemical Markers in the Family Iridaceae CHR. A. WILLIAMS and J. B. HARBORNE	325	Inhibition of Photosynthetic Electron Transport by Halogenated 4-Hydroxy-pyridines A. TREBST, B. DEPKA, S. M. RIDLEY, and A. F. HAWKINS	391
Are Spinach Chloroplasts Involved in Flavonoid O-Methylation? K. THRESH and R. K. IBRAHIM	331	Proton Uptake by Light Induced Interaction between Rhodopsin and G-Protein A. SCHLEICHER and K. P. HOFMANN	400

Physiology of Nitrogen Fixation in Two New Strains of <i>Anabaena</i> PEI-CHUNG CHEN	406	Diversification of Chemoreceptors in <i>Ectocarpus</i> , <i>Sphacelaria</i> , and <i>Adenocystis</i> (Phaeophyceae) D. G. MÜLLER, W. BOLAND, L. JAENICKE, and G. GASSMANN	457
Biochemical Oxygen Activation as the Basis for the Physiological Action of Tetrachlorodecaoxide (TCDO) R. J. YOUNGMAN, G. R. WAGNER, F. W. KÜHNE, and E. F. ELSTNER	409	Nonconventional Interactions between Photoreceptor Axons in the Butterfly Lamina Ganglionaris W. C. GORDON	460
Isolation of Labeled Lipoprotein from <i>Escherichia coli</i> and <i>Proteus mirabilis</i> after Incubation with [¹⁴ C]Penicillin G. GRUNER, M. H. TADROS, and R. PLAPP	415	Contents of Number 7/8	
Studies on Protein Synthesis of Outgrowing Spores of <i>Bacillus subtilis</i> (In German) M. HECKER, A.-M. DUNGER, G. WACHLIN, and F. MACH	421	Original Communications	
On the Role of Branched-Chain Amino Acids in Protein Turnover of Skeletal Muscle. Studies <i>in vivo</i> with L-Norleucine K.-J. SCHOTT, J. GEHRMANN, U. PÖTTER, and V. NEUHOFF	427	Comparative Studies on the Production and Accumulation of Essential Oil in the Whole Plant and in the Cell-Culture of <i>Pimpinella anisum</i> L. (In German) J. REICHLING, H. BECKER, R. MARTIN, and G. BURKHARDT	465
Regression of the Time-Keeping Ability in Carabid Beetles by Phylogenetic Adaptation to Cave Conditions W. MARTIN and F. WEBER	438	New Flavone Glucoside Malonylestere from <i>Bryum capillare</i> W. STEIN, S. ANHUT, H. D. ZINSMEISTER, R. MUES, W. BARZ, and J. KÖSTER	469
Notes		3-Acetamino-4-hydroxy Benzoic Acid and 2-Acetamino Phenol from <i>Pseudomonas</i> Cultures (In German) S. WINKLER, W. NEUENHAUS, H. BUDZIKIEWICZ, H. KORTH, and G. PULVERER	474
γ -Radiolysis of 2'-Deoxyguanosine. The Structure of the Malondialdehyde-Like Product D. LANGFINGER and C. v. SONNTAG	446	Comparison of pH Changes and Elicitor Induced Production of Glyceollin Isomers in Soybean Cotyledons W. F. OSSWALD, S. ZIEBOLL, and E. F. ELSTNER	477
Prosomes are Involved in the Repression of Viral mRNA A. HORSCH, K. KÖHLER, and H.-P. SCHMID	449	Isonorautenol and other Pterocarpin Phytoalexins from <i>Calopogonium mucunoides</i> J. L. INGHAM and S. TAHARA	482
Inhibition of Blue-light-Induced, Flavin-Mediated Membraneous Redoxtransfer by Xenon W. SCHMIDT	451	Natural Inhibitors of Germination and Growth, III. New α -Pyrones from Seeds of <i>Rosa canina</i> E. LOHAUS, C. ZENGER, W. RÜDIGER, and E. CMIEL	490
Photoaffinity Labeling of Spinach Thylakoids and Cytochrome <i>b₆/f</i> -Complex by the Hydrophobic Reagent 3-(Trifluoromethyl)-3-(<i>m</i> -[¹²⁵ I]iodophenyl)-diazirine W. OETTMEIER, H.-J. SOLL, and E. OLSCHESKI	454	The Regulation of Acetyl Coenzyme A Synthesis in Chloroplasts H.-J. TREEDE and K.-P. HEISE	496

Isomerase and Decarboxylase Activities in the 4-Hydroxyphenylacetate Catabolic Pathway of <i>Pseudomonas putida</i> M. L. MARTÍN and A. GARRIDO-PERTIERRA	503	Three-Dimensional Models of the Carbohydrate Moieties of Murein and Pseudomurein H. FORMANEK	555
The Presence of a Specialized- β -Glucosidase: Linamarase, in the Leaves of <i>Trifolium repens</i> is Controlled by the Gene <i>Li</i> P. KAKES and H. EELTINK	509	Composition and Distribution of Lipids in Tissues of Bogue (<i>Boops boops</i>) V. M. KAPOULAS and S. MINIADIS-MEIMAROGLOU	562
Biosynthesis of Trichothecene Mycotoxins in <i>Fusarium culmorum</i> Cultures N. C. P. BALDWIN, B. W. BYCROFT, P. M. DEWICK, J. GILBERT, and I. HOLDEN	514	X-Ray Studies on Phospholipid Bilayers. V. Interactions with DDT M. SUWALSKY, N. BUGUEÑO, J. TAPIA, and F. NEIRA	566
2-Hydroxy-Swietenin, a New Limonoid from <i>Swietenia mahagoni</i> DC. (In German) A. DAILY, O. SELIGMANN, H. LOTTER, and H. WAGNER	519	Invariance of Stoichiometry of the Sarcoplasmic Reticulum Calcium Pump at Physiological Calcium Concentrations – a Reevaluation W. HASSELBACH and A. MIGALA	571
The Action of <i>Saraca asoca</i> Roxb. de Wilde Bark on the PGH ₂ Synthetase Enzyme Complex of the Sheep Vesicular Gland T. B. MIDDELKOOP and R. P. LABADIE	523	Nature of Yeast Cells Immobilized by Radiation Polymerization Activity Dependence on the Molecular Motion of Polymer Carriers T. FUJIMURA and I. KAETSU	576
Effect of Salinity on Photosynthetic ¹⁴ CO ₂ Fixation and Amino Acid Pools of <i>Bellerochea yucatanensis</i> (v. Stosch) and <i>Thalassiosira rotula</i> (Meunier) G. DÖHLER and J. ZINK	527		
ESR and ENDOR Investigations of Adrenochrome Semiquinone and Related Amino-1,2-Benzosemiquinone Radicals H. B. STEGMANN, H. DAO-BA, K. SCHEFFLER, and M. G. PETER	531	Notes	
Detection of Semiquinone Radicals of N-Acylcatecholamines in Aqueous Solution M. G. PETER, H. B. STEGMANN, H. DAO-BA, and K. SCHEFFLER	535	Fast Atom Bombardment Mass Spectrometry of Coumaric Acids CH. G. DE KOSTER, G. J. NIEMANN, and W. HEERMA	580
A Comparison of Decoration Techniques for the Demonstration of Immunocomplexes by Scanning Electron Microscopy: Labeling of a Protein Antigen on the Surface of the Yeast <i>Candida albicans</i> (In German) M. BORG	539	Flavonoid Glycosides from <i>Thymus membranaceus</i> F. TOMÁS, L. HERNÁNDEZ, F. A. T. BARBERÁN, and F. FERRERES	583
Isotopic Effect on the Kinetic of Thermal Denaturation of Ceruloplasmin L. SPORTELLI, A. DESIDERI, and A. CAMPANIELLO	551	Chichoric Acid and Its Derivatives from <i>Echinacea</i> Species (In German) H. BECKER and W. CH. HSIEH	585
		Pattern Formation and Marangoni Convection during Oscillating Glycolysis S. C. MÜLLER, T. PLESSER, A. BOITEUX, and B. HESS	588
		Hyperglycemia in Freshwater Field Crab (<i>Oziotelphusa senex senex</i>) Produced by Pesticides K. S. J. RAO	592

Contents of Number 9/10

Original Communications

- Synthesis of 1,2-Dipalmitoyloxypropyl-3-(2-ammoniummethyl) Phosphinate
M. C. MOSCHIDIS 595
- Comparative Analysis of Epicuticular Waxes from Some High Alpine Plant Species
C. LÜTZ and P.-G. GÜLZ 599
- Physicochemical Characterization of Tetraetherlipids from *Thermoplasma acidophilum*. IV. Calorimetric Studies on the Miscibility of Tetraetherlipids with Dipalmitoyl Phosphatidylcholine and Dipalmitoyl Phosphatidylglycerol
D. BLÖCHER, R. GUTERMANN, B. HENKEL, and K. RING 606
- Occurrence and Characteristics of Amino Alcohols and Cyclohexenone. Components of Fungal Mycosporines
F. LEMOYNE, J. BERNILLON, J. FAVRE-BONVIN, M. L. BOUILLANT, and N. ARPIN 612
- Isoflavonoids from *Bolusanthus speciosus* (Bolus) Harms Leguminosae
K. ASRES, P. MASCAGNI, M. J. O'NEILL, and J. D. PHILLIPSON 617
- Studies on Sporopollenin Biosynthesis: The Effect of Inhibitors of Carotenoid Biosynthesis on Sporopollenin Accumulation
A.-K. PRAHL, H. SPRINGSTUBBE, K. GRUMBACH, and R. WIERMANN 621
- Origin of Cardenolides in Rhizomes and Roots of *Convallaria majalis* L.. Biogenesis *in situ* or Transport from Leaves?
R. SCHRUTKA-RECHTENSTAMM, B. KOPP, and W. LÖFFELHARDT 627
- On the Active Principles of the Spurge Family (Euphorbiaceae). XI. [1] The Skin Irritant and Tumor Promoting Diterpene Esters of *Euphorbia tirucalli* L. Originating from South Africa
G. FÜRSTENBERGER and E. HECKER 631
- Effects of Norfloxacin and Rifampicin on Growth and Streptolysin S Production in Hemolytic Streptococci
A. TAKETO and Y. TAKETO 647
- Acetohydroxyacid Synthase Inhibitors: N-Phthalyl-L-valine Anilide and Related Compounds
J. L. HUPPATZ and J. E. CASIDA 652
- Volatile Secretions in Three Species of *Dufourea* (Hymenoptera: Halictidae) Bees: Chemical Composition and Phylogeny
J. TENGÖ, I. GROTH, G. BERGSTRÖM, W. SCHRÖDER, S. KROHN, and W. FRANCKE 657
- Volatile Constituents of the Red Wood Ant *Formica rufa* L. (Hymenoptera: Formicidae)
W. FRANCKE, J. BORCHERT, and D. KLIMETZEK 661
- Mandibular Gland Secretions as Alarm Pheromones in Two Species of the Desert Ant *Cataglyphis*
A. HEFETZ and H. A. LLOYD 665
- (Z)-9-Dodecenyl Acetate, a Component of the Sex Pheromone of *Cnephasia longana* Haworth (Lepidoptera: Tortricidae)
H.-J. BESTMANN, A. ATTYGALLE, H. PLATZ, O. VOSTROWSKY, and M. GLAS 667
- Mode of Action of the Hypertrehalosaemic Peptides from the American Cockroach
G. GÄDE 670
- The Kinetics of the Reaction of Thiocyanate and Nitrite Ions with *Orconectes limosus* Oxyhemocyanin
R. GONDKO, E. SERAFIN, J. MAZUR, B. JEŻOWSKA-TRZEBIATOWSKA and A. JEZERSKI 677
- Regioselective O-Demethylation of Scoparone: Differentiation between Rat Liver Cytochrome P-450 Isozymes
D. MÜLLER-ENOCH, E. BÜTTGEN, and A. NONNENMACHER 682
- Degradation of Bacteriochlorophyll *a* in *Rhodospseudomonas sphaeroides* R 26
H. HAIDL, K. KNÖDLMAYR, W. RÜDIGER, H. SCHEER, S. SCHOCH, and J. ULLRICH 685
- A Photoreversible 39 kDalton Fragment from the P_{fr} Form of 124 kDalton Oat Phytochrome
U. REIFF, P. EILFELD, and W. RÜDIGER 693
- On the Correlation between Oxygen Uptake in Plastids of Greening Etiolated Oat Leaves and Pigment Photooxidation
F. FRANCK and G. H. SCHMID 699

Separation of Chloroplast Thylakoid Membrane Polypeptides by Electrophoresis on Polyacrylamide Gradient Gels with a Length of 60 cm H. O. SCHMIDT and K.-H. SÜSS	705	Contents of Number 11/12
Phosphorylation of Coformycin and 2'-Deoxycoformycin, and Substrate and Inhibitor Properties of the Nucleosides and Nucleotides in Several Enzyme Systems A. BZOWSKA, P. LASSOTA, and D. SHUGAR	710	<i>Original Communications</i>
Stereospecific Synthesis by the Sodium Salt Glycosylation Method of Halogeno Benzimidazole 2'-Deoxyribose Analogues of the Inhibitor of hnRNA Synthesis, 5,6-Dichloro-1-(β -D-ribofuranosyl)benzimidazole (DRB) Z. KAZIMIERCZUK, R. STOLARSKI, and D. SHUGAR	715	Studies on the Triple Helical Structure of β -D-1,3 Xylan M. A. HALEEM and S. QAMRUDDIN
Potassium and Rubidium Effluxes in <i>Saccharomyces cerevisiae</i> M. D. ORTEGA and A. RODRÍGUEZ-NAVARRO	721	A- α -hydroxymesobiliverdin, a New Bile Pigment E. BENEDIKT and H.-P. KÖST
Thyroxine Induced Transformation in Sarcoplasmic Reticulum of Rabbit Soleus and Psoas Muscles M. T. NUNES, A. C. BIANCO, A. MIGALA, B. AGOSTINI, and W. HASSELBACH	726	Alteration of Tocochromanol Pattern in Some Plant Oils (Soybean, Lupine, Sunflower and Wheat) during Germination and Growth (In German) H. SCHULZ, G. LAUSCH, and W. FELDHEIM
Protoplast Dielectrophoresis in Axisymmetric Fields N. STOICHEVA, I. TSONEVA, and D. S. DIMITROV	735	Quinolizidine Alkaloids as Nitrogen Source for Lupin Seedlings and Cell Cultures M. WINK and L. WITTE
<i>Notes</i>		Cellular Differentiation of Sucrose Metabolism in <i>Anabaena variabilis</i> N. SCHILLING and K. EHRSNER
Biotransformation of Tryptophan to Indole-3-acetic Acid by <i>Xanthomonas campestris</i> pv. <i>campestris</i> D. J. ROBESON and D. R. COOK	740	The Crystal Structure of Ectoine, a Novel Amino Acid of Potential Osmoregulatory Function (In German) W. SCHUH, H. PUFF, E. A. GALINSKI, and H. G. TRÜPER
A Fungal Elicitor of the Resistance Response in Wheat K.-H. KOGEL, B. HECK, G. KOGEL, B. MOERSCHBACHER, and H.-J. REISNER	743	Elimination of Ammonium Ion from the α -Hydroxyalkyl Radicals of Serine and Threonine in Aqueous Solution and the Difference in the Reaction Mechanism G. BEHRENS and G. KOLTZENBURG
Water Relations in Young Growing Wheat Leaves after Application of (2-Chloroethyl)trimethylammoniumchloride (CCC) to the Roots of Wheat Seedlings J. BODE and A. WILD	745	A Disappearance of a 24-kDa Acid-Soluble Protein from Liver Chromatin of Normal and Starved Hens Following D-Galactosamine Administration J. PALYGA
Associations of Mitochondria with Desmosome-Like Structures in the Oocytes of <i>Raillietiella aegypti</i> (Pentastomida, Cephalobaenida) R. RIEHL and V. WALLDORF	748	Further Evidence for a Functional Relationship between L-Amino Acid Oxidase Activity and Photosynthetic Oxygen Evolution in <i>Anacystis nidulans</i> . Effect of Chloride on the Two Reactions E. K. PISTORIUS
		Antiserum Against the 33-kDa Herbicide-Binding Protein G. HERRMANN, A. THIEL, and P. BÖGER

Preparation of an Enzyme Associated with Carthamin Formation in <i>Carthamus tinctorius</i> L. K. SAITO, Y. TAKAHASHI, and M. WADA	819	Formation and Decay of the Vanadate Complex of the Sarcoplasmic Reticulum Calcium Transport Protein P. MEDDA and W. HASSELBACH	876
Binary Oscillation of Delayed Luminescence: Evidence of the Participation of Q_B^- in the Charge Recombination É. HIDEG and S. DEMETER	827	Linear Dichroism Spectroscopy of Retinal with Picosecond Time Resolution M. E. LIPPITSCH, M. RIEGLER, F. R. AUSSENEGB, N. FRIEDMAN, M. SHEVES, Y. MAZUR, and L. MARGULIES	880
The Role of NADPH in the Reversible Phototransformation of Chlorophyllide P_{682} into Chlorophyllide P_{678} in Etioplasts of Oat F. FRANCK and G. H. SCHMID	832	A Patch Clamp Study of Tonoplast Electrical Properties in Vacuoles Isolated from <i>Chenopodium rubrum</i> Suspension Cells F.-W. BENTRUP, B. HOFFMANN, M. GOGARTEN-BOEKELS, J. P. GOGARTEN, and CH. BAUMANN	886
Biochemical Characterization of Propylglyoxal Bis(guanylhyazone). Facile Synthesis of Monoalkylglyoxal Bis(guanylhyazones) H. ELO, R. LAINE, L. ALHONEN-HONGISTO, J. JÄNNE, I. MUTIKAINEN, and P. LUMME	839	Reculturing of Cells from Primary CFU-C Colonies G. E. HÜBNER, F. ALI-OSMAN, M. KASTNER, C. PAPADIMITRIOU, and H. R. MAURER	891
Tumor Inhibition by Ferricenium Complexes: Systemic Effect <i>in vivo</i> and Cell Growth Inhibition <i>in vitro</i> P. KÖPF-MAIER	843	Mammalian Spermatogenesis as a Biological Indicator for Ionizing Radiation (In German) U. HACKER-KLOM, E.-M. MEIER, and W. GÖHDE	898
Chemical Composition of the Wing Gland and Abdominal Hair Pencil Secretions of the Male African Sugarcane Borer, <i>Eldana saccharina</i> (Lepidoptera: Pyralidae) B. V. BURGER, W. M. MACKENROTH, D. SMITH, H. S. C. SPIES, AND P. R. ATKINSON	847	Notes Analytical Ultracentrifugation of Proteins in Solutions of Triton X-100 Using Absorption Optics D. SCHUBERT and K. BOSS	908
Presumed Sex Pheromone from Androconial Glands of Male Cotton Harlequin Bug <i>Tectocoris diophthalmus</i> (Heteroptera; Scutelleridae) Identified as 3,5-Dihydroxy-4-pyrone D. W. KNIGHT, B. W. STADDON, and M. J. THORNE	851	Calcium, Iron and Cobalt Accumulation in Root Hairs of Soybean (<i>Glycine max</i>) D. WERNER, K.-P. KUHLMANN, F. GLOYSTEIN, and F.-W. RICHTER	912
Further Observations on Periodicities of Nucleotide Occurrences in Natural DNA's N. BURR FURLONG and K. MARIEN	854	Seasonal Variation of Free Flavone Aglycones from <i>Sideritis leucantha</i> (Lamiaceae) F. A. T. BARBERÁN, F. TOMÁS, and J. M. NÚÑEZ	914
MTD Approach to Quantitative Structure-Activity Relationships for Cardiotonic Steroids M. BOHL and Z. SIMON	858	On the Specificity of the Herbicide Chlorsulfuron in Intact Spinach Chloroplasts U. HOMEYER, D. SCHULZE-SIEBERT, and G. SCHULTZ	917
Reaction of Fluorescein Isothiocyanate with Thiol and Amino Groups of Sarcoplasmic ATPase G. SWOBODA and W. HASSELBACH	863	Bleomycin-Iron Complex and Oxygen Activate Algal Ribonucleotide Reductase R. HOFMANN and H. FOLLMANN	919

Growth Response of Mouse Lymphoma Cells to Low Concentrations of Mercuric Chloride ST. P. JOST, J. COLE, and B. C. GOODWIN	922	Female Urinary Chemosignals Influence Scent-Marking Behavior in Male Mongolian Gerbils (<i>Meriones unguiculatus</i>) B. PROBST	936
The UV Absorption Spectra of the C(5) and C(6) OH Adduct Radicals of Uracil and Thymine Derivatives. A Pulse Radiolysis Study D. J. DEEBLE and C. VON SONNTAG	925	Specificity of Sexual Attractants in <i>Xestia triangulum</i> Hufn. and <i>X. ditrapezium</i> Schiff. (Lepidoptera: Noctuidae) E. PRIESNER	939
High Yields of DNA-Transfer into Mouse L-Cells by Electroporabilization H. STOPPER, U. ZIMMERMANN, and E. WECKER	929	Inhibitors of Sexual Attraction in the Moth <i>Agrotis exclamatoris</i> E. PRIESNER	943
DNA in the Nucleomorph of <i>Cryptomonas</i> Demonstrated by DAPI Fluorescence P. HANSMANN, H. FALK, and P. SITTE	933	Subject Index	947
		Authors Index	969